WE CLAIM:

1. A method of preparing phytosterols from tall oil pitch containing steryl esters, said method comprising the steps of:

(a) converting said steryl esters to free phytosterols while in said pitch to produce a modified pitch containing said free phytosterols;

(b) removing light ends from said modified pitch by evaporation to produce a bottom fraction containing said free phytosterols;

(c) evaporating said bottom fraction to produce a light phase distillate containing said free phytosterols;

(d) dissolving said light phase distillate in a solvent comprising an alcohol to produce a solution containing said free phytosterols;

(e) cooling said solution to produce a slurry with said free phytosterols crystallized in said slurry; and,

(f) washing and filtering said slurry to isolate said crystallized phytosterols.

2. A method as defined in claim 1, wherein said modified pitch comprises less than 1% water by weight.

3. A method as defined in claim 1 or 2, wherein said solvent comprises a low molecular weight monohydric alcohol.

4. A method as defined in claim 1 or 2, wherein said solvent comprises a low molecular weight monohydric alcohol and water.

5. A method as defined in claim 1 or 2, wherein said slurry is washed and filtered using a solvent like said solvent used to dissolve said light phase distillate.

6. A method as defined in claim 1, wherein said step of converting said steryl esters to free phytosterols comprises the steps of:

(a) saponifying said tall oil pitch with an alkali metal base;

(b) neutralizing said saponified pitch with an acid; and,

(c) heating said neutralized pitch to remove water, the resulting pitch with such water removed defining said modified pitch.

7. A method as defined in claim 6, wherein said alkali metal base is selected from the group consisting of:

(a) sodium hydroxide;

(b) potassium hydroxide;

(c) sodium hydroxide and potassium hydroxide.

8. A method as defined in claim 7, wherein in the weight percentage of alkali metal base to tall oil pitch is in the range of 1% to 15%.

9. A method as defined in claim 7, wherein said saponification is conducted at a temperature in the range of 100 to 250 deg. C for a period in the range of 60 to 300 minutes.

10. A method as defined in claim 6, wherein said acid is an organic acid.

11. A method as defined in claim 6, wherein said acid is a mineral acid.

12. A method as defined in claim 11, wherein said mineral acid is selected from the group consisting of:

(a) sulphuric acid;

(b) hydrochloric acid;

(c) phosphoric acid;

(d) a combination of acids comprising two or more of sulphuric acid, hydrochloric acid and phosphoric acid.

13. A method as defined in claim 6, wherein said neutralization is conducted at a temperature in the range of 10 to 100 deg. C for a period in the range of 1 to 10 hours.

14. A method as defined in claim 6, wherein said neutralized pitch has a water phase pH in the range of 4 to 7.

15. A method as defined in claim 6, wherein said heating step comprises heating at a temperature in the range 90 to 100 deg. C for a time sufficient to effect the bulk disengagement of water from the organic phase.

16. A method as defined in claim 15, wherein said heating step further comprises heating under vacuum conditions such that said modified pitch comprises less than 1% water by weight.

17. A method as defined in claim 1 or 6, wherein said light ends are removed in a wiped film evaporator operating at a pressure in the range of 0.1 to 10 millibars and at a temperature in the range 160 to 280 deg. C.

18. A method as defined in claim 1 or 6, wherein said bottom fraction is evaporated in a wiped film evaporator operating at a pressure in the range of 0.01 to 1.0 millibars and at a temperature in the range 180 to 300 deg. C.

19. A method as defined in claim 6, wherein said solvent comprises a low molecular weight monohydric alcohol.

20. A method as defined in claim 6, wherein said solvent comprises a low molecular weight monohydric alcohol and water.

21. A method as defined in claim 1 or 6 in which the crystallization of phytosterols is effected at a temperature in the range of 0 to 35 deg. C.

22. A method as defined in claim 1, further including the step of evaporating said light phase distillate after step (c) and before step (d) to enhance the concentration of free phytosterols in said light phase distillate.

23. A method as defined in claim 22, wherein water is added in step (d) in a proportion up to 35% by weight relative to the organic solvent phase.

24. A method as defined in claim 23, wherein the weight ratio of solvent to distillate is between 0.3 to 2.0.

25. A process according to claim 19, 20 or 24 in which the alcohol is selected from:

(a) methanol;

(b) ethanol;

(c) 2-propanol;

(d) a combination of alcohols comprising two or more of methanol, ethanol and 2-propanol.